

RECYCLING TECHNOLOGY PRODUCTS: AN OVERVIEW OF E-WASTE POLICY ISSUES

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EXECUTIVE SUMMARY

Recycling of electronic products has become an issue for communities around the world as concerns over waste management issues have grown. Over 10 countries have laws on recycling discarded electronics and more are developing legislation. In the United States, five states have banned the disposal of cathode ray tubes from television and computer monitors in landfills. Four states have passed statewide electronics recycling laws, yet each has very different requirements for manufacturers, retailers, local governments and consumers.

How our electronic waste solutions are developed, and who is involved in the decision process, will affect the business models and international competitiveness of U.S. companies. Industry is now facing a patchwork of international and state laws that can affect the manufacture, marketing, and business models of the U.S. electronics sector, the transaction costs and business models of our retail sector. Disparate requirements can lead to uncertainties, inefficiencies, and high compliance costs for companies.

The Technology Administration's Office of Technology Policy (OTP) held a public roundtable of stakeholders in September 2004—including manufacturers, retailers, recyclers, and environmental organizations—and solicited further public comments in a Federal Register notice on the following issues: which products should be included in a recycling program for household electronics; methods for collection, transportation and recycling; the development and financing of a system for recycling used electronics; and the role of government in a recycling program.

Stakeholders who participated in the OTP Roundtable and responded to the Federal Register request for comments agreed that a uniform national system of electronics recycling is preferable to a patchwork of differing state systems. Unfortunately, stakeholders have not been able to come to a consensus on the financing for a national system. The result is that states are experimenting with a variety of financing systems from an "advanced recovery fee" (ARF) paid by the consumer at the time of purchase to "producer responsibility" in which manufacturers of televisions and computer monitors are responsible for paying for the recycling.

This report summarizes stakeholders' views and concerns, leads the reader through the different components of a recycling system, and analyzes the most commonly discussed models for financing a national recycling system. The report describes federal and state government legislation and programs, as well as industry programs, on electronic products disposal and recycling. Included are descriptions and analysis of the financing

systems used by other countries to manage electronics recycling programs, and the experiences and analysis of the financing systems used by eight different industry recycling programs. For example, lessons learned from existing recycling programs for electronics and other industries include the importance of consumer education and the convenience to consumers of collection or drop-off locations for the used product. A lesson learned from examining the challenges faced by other industry recycling programs is the importance of creating a market for the recycled product in order to make recycling self-sustainable.

By collecting a wide range of information into one comprehensive document, the report is designed to assist lawmakers and policymakers in engaging in an informed debate as they consider future action on a potential electronics recycling system that affects the technology industry and its stakeholders, including manufacturers, retailers, recyclers, and consumers. The report does not make recommendations in favor of one system over the other, but instead summarizes stakeholders' views and analyzes the range of collection and financing systems for electronics recycling.

Reaching consensus among stakeholders would speed the implementation of a solution to the management of discarded electronics. There were many areas of agreement among stakeholders that could form a basis for potential consensus. Importantly, many stakeholders expressed the view that they would be willing to concur within a range of options in order to achieve consensus. Some of the most frequently voiced comments on what should be included in a uniform, national recycling system are highlighted below. Organizations and individuals differed on how to achieve a uniform system. Some parties believed it could be achieved through voluntary stakeholder consensus or through state legislation. Others believed national legislation was needed.

Stakeholder recommendations for an electronics recycling system included:

National System

- Strive for one uniform, national system rather than a patchwork of differing state systems, achieved either through voluntary stakeholder consensus, uniform state legislation, or federal legislation.
- Embrace product stewardship as a goal: those in the product lifecycle should share responsibility for reducing the environmental impacts of products. Materials have a value and that value should be captured, preserved, and returned for use in commerce.

Product Coverage

- Define covered products clearly to eliminate guesswork and lengthy negotiations between producers and retailers.

Collection

- Provide flexibility for local and regional solutions in collection methods, such as using collection incentive payments, not mandates or a centrally prescribed collection process.

Recycling

- Treat residential and commercial electronics waste the same.
- Set environmentally sound management guidelines for recycling—such as EPA’s guidelines for the Plug-In to eCycling program—and provide a system of auditing to ensure that dismantlers and recyclers are evaluated against these guidelines.

Financing

- Agree on one financing mechanism to apply across the country.
- Establish procedures to oversee and enforce the system to ensure fairness and uniform participation, regardless of the financing system chosen.
- Build competition and market forces into the system from the beginning in order to keep costs low.

Minimizing Compliance Costs and Maximizing Participation

- Standardize product labeling requirements, product literature requirements, information on packaging requirements, and reporting requirements so producers face only one set of requirements for compliance across the country.
- Include industry in the development of any design standards or material bans, if they are part of any legislation.
- Ensure a level playing field for all manufacturers, including manufacturers who sell over the Internet and foreign manufacturers.

Consumer Education

- Educate consumers about the importance of recycling and the opportunities for recycling.

Incentives for a Market-driven Solution

- Use the Federal Government’s leverage as one of the country’s largest information technology buyers to drive design improvements, manufacturer participation in recycling solutions, and end-of-life services.
- Develop incentives in the private sector for programs that reward environmentally friendly design, such as the Electronic Product Environmental Assessment Tool (EPEAT), Energy Star, Design for Environment Program, and the Green Suppliers Network.

Guide to Recycling Technology Products: An Overview of E-Waste Policy Issues

- Chapter I summarizes stakeholders' comments on the criteria for a national system of electronics recycling.
- Chapter II explains the different components of an electronics recycling system and describes the many different financing models under discussion in the United States or in use around the world.
- A terminology guide for electronics recycling financing systems is on page 16.
- Appendix 1 describes multilateral treaties, activities, and laws in other countries that are affecting the inputs to electronic products and the treatment of electronic waste worldwide, as well as analyses of other countries' experiences establishing and financing national electronics recycling programs.
- Appendix II describes the federal government legislation that governs waste disposal in the United States and recent legislation introduced in Congress relating to electronics recycling.
- Appendix III explains the effort by federal, state, and local governments and industry and nonprofits to voluntarily come to a consensus on a national system of electronics recycling under the National Electronics Products Stewardship Initiative (NEPSI) process and offers a description of the 12 models of financing stakeholders considered.
- Appendix IV informs the reader of other government and industry initiatives.
- Appendix V describes major state legislation on electronics recycling as well as examples of proposed legislation to give the reader an idea of the range of proposals in state legislatures over the last few years.
- Appendix VI analyzes the results in eight other industries that have established or have tried to establish recycling programs, including batteries, tires, carpet, beverage containers, oil, paint, and vehicles.
- Appendix VII offers a list of acronyms for easy reference.
- Appendix VIII provides reproductions of all the public comments received in response to the Department's Federal Register request for comments.